

Comparisons of Job Characteristics

Focus Occupation: Materials Engineers (17-2131)

Associated Occupation: First-Line Supervisors of Production and Operating Workers (51-1011)

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 39

Focus Occupation: Materials Engineers (17-2131)

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Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Production and Processing	6.0	17.4	8.1	<<	Extensive education and/or training may be required
Administration and Management	8.4	14.0	7.4	<<	Extensive education and/or training may be required
Education and Training	9.2	11.1	4.7	<<	Extensive education and/or training may be required
Mechanical	6.8	10.9	8.4	<<	Extensive education and/or training may be required
Mathematics	9.2	10.6	11.8	>	Current knowledge level is likely sufficient
Personnel and Human Resources	5.6	10.2	2.9	<<	Extensive education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 63

Focus Occupation: Materials Engineers (17-2131)

Associated Occupation: First-Line Supervisors of Production and Operating Workers (51-1011)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Time Management	8.9	12.6	9.5	<<	Extensive development of skills in this area may be required
Coordination	9.1	12.0	9.1	<<	Extensive development of skills in this area may be required
Management of Personnel Resources	6.9	11.8	8.7	<<	Extensive development of skills in this area may be required

Negotiation	6.8	9.8	7.5	<<	Extensive development of skills in this area may be required
Management of Material Resources	3.7	5.8	5.3	0	Current skill level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities

Similarity of Focus Occupation to Associated Occupation: 93

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Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Oral Expression	12.4	14.0	15.3	0	Current ability level may be sufficient
Oral Comprehension	12.5	13.3	14.1	0	Current ability level may be sufficient
Written Comprehension	11.0	12.2	14.2	>	Current ability level is likely sufficient
Problem Sensitivity	11.1	12.1	14.7	>	Current ability level is likely sufficient
Deductive Reasoning	10.6	11.4	14.2	>	Current ability level is likely sufficient
Speech Clarity	10.2	11.0	10.2	0	Current ability level may be sufficient
Written Expression	9.8	11.0	13.8	>	Current ability level is likely sufficient
Inductive Reasoning	10.2	10.7	13.9	>>	Current ability level is likely more than sufficient
Originality	7.6	9.7	10.6	0	Current ability level may be sufficient
Fluency of Ideas	7.6	9.1	9.8	0	Current ability level may be sufficient
Perceptual Speed	7.4	8.4	8.8	0	Current ability level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common

Similarity of Focus Occupation to Associated Occupation: 75

Focus Occupation: Materials Engineers (17-2131)

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Work Activities	Exclusivity of Activity
Communicate technical information	4
Coordinate production materials, activities or processes	81
Determine factors affecting production processes	84
Direct and coordinate activities of workers or staff	3
Estimate materials or labor requirements	61
Prepare reports	8
Read blueprints	10
Read technical drawings	7

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus
Occupation to Associated
Occupation: 65

Focus Occupation: Materials Engineers (17-2131)

Associated Occupation: First-Line Supervisors of Production and Operating Workers (51-1011)

Tools and Technologies	Exclusivity
Business function specific software	1
Computer data input devices	2
Computers	1
Content authoring and editing software	1
Data management and query software	1
Information exchange software	1
Network applications software	1
Safety apparel	4
Vision protection and accessories	3

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.